

Specification Amendments

Please amend the paragraph on page 4, lines 20-30, as follows:

In one embodiment of the invention, an oxidant cleavable linker may be used to attach substrate molecules ~~to a detectable product~~ having two binding sites where the substrate is attached to a surface or support. Subsequent to binding of a target molecule or analyte to produce a sandwich comprising both a receptor having the substrate molecules and a receptor having a label wherein the receptors are in close proximity, the label generates an oxidant which cleaves a linker joining the substrate and the support. The resulting detectable product is released from the surface or support and is physically separated from the substrate by centrifugation, decantation, chromatography or the like. The main advantage of this approach is that any suitable oxidatively cleavable link may suffice. However, this embodiment is usually suitable for heterogeneous assays and the sensitivity of the assay will therefore depend strongly on efficiency of the separation of free and bound receptor to which the substrate is bound.

Please amend the paragraph on page 9, lines 5-22, as follows:

The present invention provides a method for enhancing the detection of minute quantities of an analyte or target molecule by amplifying the signal from a binding assay that utilizes a catalyst that is capable of generating an oxidant, e.g., a peroxide or singlet oxygen. This catalyst is generally associated with a support or surface such as a particle to form what is referred herein as a sensitizer particle. The method of the invention entails a first step of forming a sandwich of a first receptor bound to the sensitizer particle, an analyte or target, and a second receptor associated with multiple copies of a substrate. The substrate is attached to a support or surface such as a particle to form what is referred to herein as an acceptor particle. The analyte binds to the first and second receptor, drawing the catalyst and substrate in close proximity. When peroxide or singlet oxygen is generated, an oxidant cleavable linker is cleaved, releasing ~~the multiple substrates as~~ multiple products. The product includes two binding sites and may be detected using any standard sandwich assay, which utilizes specific binding reagents to form a detectable ternary complex containing the product. In practicing this invention, it is preferred

that one of the specific binding reagents be incapable of binding to substrate when it is bound to the acceptor particle which is required for homogenous assays. In addition, it is preferred that the catalyst generate singlet oxygen as the oxidant and that linkers that attach the substrate to the surface or support be singlet oxygen cleavable.